Remarks

Currently pending are claims 1-14. In view of the above amendments and following remarks, Applicants respectfully request reconsideration by the Examiner, and advancement of the application to allowance.

Objections

The Examiner objected to the disclosure for lacking appropriate sections and headings. Applicants have amended the disclosure to include appropriate headings and sections. In addition, Applicants have amended the disclosure to include generic terminology for each trademark. Accordingly, Applicants request the objections be withdrawn.

Double Patenting

The Examiner provisionally rejected claims 1, 2, 4, 5, 7, 10, 11 and 13 on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 9-16 and 19 of co-pending US App. No. 11/910,106. The Examiner also rejected claims 1, 2, 4-11 and 13-14 on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 14-19 and 23-29 of co-pending US App. No. 11/910,468. Applicants submit herewith a terminal disclaimer in compliance with 37 CFR 1.321 to overcome the double patenting rejections.

35 U.S.C. § 103

The Examiner rejected claims 1, 3-5, 7, 10-11 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Wallace (US 2,286,726) in view of Tomalia (Encyclopedia of Polymer Science and Engineering, Vol. 1) and LeBlanc et al. (US 3,963,437). Applicants traverse this rejection for the following reasons.

Applicants presently claimed invention is generally directed to a process for the flame-retardant treatment of a cellulose-containing fiber product comprising treating the fiber product with a specific branched polyethyleneimine and a phosphonic acid selected from the formulae (I) – (IIII).

In comparison, the process taught in Wallace includes treating a cellulose material with a polyethyleneimine and phosphoric acid or calcium acid phytate. As noted by the Examiner, Wallace does not teach the use of Applicants phosphonic acids of formulae (I) – (III). Moreover, Wallace does not teach the use of Applicants specifically claimed branched polyethyleneimines.

The Examiner has added Tomalia for the purpose of teaching Applicants presently claimed branched polyethyleneimines. Applicants respectfully submit Tomalia does teach Applicants claimed polyethyleneimines but merely teaches the manufacture of such polyethyleneimines and their properties. Tomalia does not teach or suggest that such polyethyleneimines could be combined with phosphonic acids of formula (I) – (III), nor that such combination, when used in a process for treating cellulose-containing fiber products, would provide a material having improved flame-retardant properties.

The Examiner has also added LeBlanc et al. for the purposes of teaching Applicants presently claimed phosphonic acids. However, LeBlanc et al. teach a process in which cellulosic material is treated with a solution that contains a combination of cyanamide with phosphonic acids, antimony oxide and a polymeric halogen-containing material. One of ordinary skill, when reading LeBlanc et al. as a whole, would not expect that removing only the phosphonic acids from LeBlanc et al.'s solution and combining them with polyethyleneimines would provide a solution that could then be successfully

used in a process for treating cellulosic material since LeBlanc et al. teach it is the combination of the four materials above which renders the material flame-retardant and one having acceptable physical properties.

LeBlanc et al further demonstrates the unpredictability in simply combining various flame retardants and using such combinations in a process for treating cellulosic material. For example, LeBlanc et al. teach treating cellulosic material with cyanamide and phosphoric acid initially renders the material flame retardant; however, flame retardancy is soon lost after hard water washing. Similarly, flame retardancy of treated cellulosic material is soon lost after hard water washing when urea or dicyandiamide is combined with chloro-methyl phosphonic acid or urea is combined with hydroxymethyl phosphonic acid. Finally, treating cellulosic material with cyanamide and methyl phosphonic acid renders the physical properties of the treated material susceptible to degradation after repeated washings. *See US 3,963,437* at col. 1, lines 16-38 and Example 1, Run A.

Nevertheless, Applicants have surprisingly found the flame-retardant properties of cellulose-containing fiber products are significantly improved when such fiber products are treated with the claimed branched polyethyleneimines and phosphonic acids of formulae (I) – (III). In particular, cellulose-containing fiber products treated with the presently claimed branched polyethyleneimines and phosphonic acids have substantially better flame-retardant properties when compared to those treated with only polyethyleneimines or phosphonic acids alone. *See US 2007/0082139* at Example 1. Neither of the publications cited above teach nor suggest such a surprising result.

Accordingly, Applicants respectfully request the rejection in view of the publications cited above be withdrawn.

The Examiner also rejected claims 2, 6, 8, 9, 12 and 14 as being unpatentable over the publications cited in Sections 4, 5, 6 and 7 in the Office Communication Mailed September 3, 2008. For the reasons set forth above, claim 1 is not obvious. Accordingly, claims 2, 6, 8, 9, 12 and 14, which depend on claim 1, are also not obvious and Applicants respectfully request these rejections be withdrawn.

Should any fee be due in connection with the filing of this document, the Commissioner for Patents is hereby authorized to deduct said fee from Huntsman Corporation Deposit Account No. 08-3442.

Respectfully Submitted,

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Date: 2/27/09